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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,218	02/13/2004	Masaaki Nakayama	249-325 (AMK)	2505
23117 7590 05/22/2008 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
OMCBA, ESSAMA				
ART UNIT		PAPER NUMBER		
3726				
MAIL DATE		DELIVERY MODE		
05/22/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/777,218

Applicant(s)

NAKAYAMA ET AL.

Examiner

Essama Omgba

Art Unit

3726

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 3-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara et al. (US Patent 4,577,6750 in view of Valle et al. (WO 99/28690) and Ogawa et al. (JP 2000128557).

With regards to claim 1, Ishihara et al. discloses a disc roll comprising a plurality of annular disc members 4 each defining a hole and having a peripheral surface, and a rotary shaft 1 fitted into the holes of the annular disc members by insertion, whereby the peripheral surface of the disc members serves as a conveying surface of the disc roll (col. 2, lines 50-66), wherein the disc members are ceramic segments (col. 2, lines 57-58). Although Ishihara et al. does not disclose the ceramic disc segments containing crystalline cordierite or an inorganic fiber and a binder, however it is known to use ceramic containing crystalline cordierite for such rolls as attested by Valle et al., see abstract and page 7, lines 10-13 that discloses compound cordierite transformed into crystalline cordierite. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used cordierite-containing ceramic in the roll of Ishihara et al., in order to produce rolls with increase resistance. Applicant should note that the cordierite-containing ceramic of Valle et al. includes mullite as inorganic fiber (page 5, lines 6-8) and clay as a binder (page 6, lines 7-8 and 13-21). Although Valle et al. does not specifically discloses "mullite" as being "mullite fiber", however it is

known to use mullite fiber as an inorganic fiber, and a binder in ceramic rolls as attested by Ogawa et al., see abstract. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used an inorganic fiber and a binder in the disc roll of Ishihara et al./Valle et al., in light of the teachings of Ogawa et al., in order to obtain a disc roll with thermal shock resistance.

For claim 2, Applicant should note that the particular amount of cordierite is considered an obvious matter of design choice that will depend on the desired strength requirement for the rolls. Furthermore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the prior art roll at the claimed ranges since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Response to Arguments

3. Applicant's arguments filed January 31, 2008 have been fully considered but they are not persuasive.

In response to Applicant's argument that the cordierite disclosed in Valle is not crystalline cordierite as defined in claim 1, the examiner respectfully disagrees. As outline in the rejections, Valle clearly teaches rolls with ceramic materials containing crystalline cordierite, see abstract and page 7, lines 1-13 where synthesizing of compound cordierite will result in crystalline cordierite as recognized by Applicant in the

response filed January 31, 2008. the examiner therefore maintains that Valle et al. teaches crystalline cordierite.

4. Applicant's arguments filed February 22, 2008 with respect to claims 1 and 2 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Essama Omgba whose telephone number is (571) 272-4532. The examiner can normally be reached on M-F 9-6:30, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Essama Omgba/
Primary Examiner, Art Unit 3726

eo
May 17, 2008